DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

P-842
Revision 13
McCAULEY
1A90
1B90
1C90
1A135
October 1, 1976

TYPE CERTIFICATE DATA SHEET NO. P-842

Propellers of models described herein conforming with this data sheet (which is a part of type certificate No. 842) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations/Federal Aviation Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder	McCauley Accessory Division Cessna Aircraft Company 1840 Howell Avenue Dayton, Ohio 45417
Type	Fixed Pitch Metal
Material	Aluminum Alloy
Number of Blades	Two

Model (See NOTE 2)	Maximum Continuous HP	Maximum Continuous RPM	Takeoff HP	Takeoff RPM	Diameter	Standard Pitch	Hub Drilling No. Holes	Hub Drilling Dia. Holes	Hub Drilling Dia. Bolt Circle	Hub Dimensions Dia.	Hub Dimensions Thickness	Weight lb. Maximum Diameter
1A90/CF	85	2600	85	2600	78"-70"	68"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1A90/CF	85	2800	85	2800	70"-66"	68"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1A90/CF	90	2475	90	2475	78"-66"	68"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1A90/CF	100	2750	100	2750	75"-71"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1A90/CH	85	2600	85	2600	78"-70"	68"-38"	6	25/64"	4-3/8"	5"	2-3/4"	21
1A90/CH	85	2800	85	2800	70"-66"	68"-38"	6	25/64"	4-3/8"	5"	2-3/4"	21
1B90/CM	85	2800	85	2800	70"-66"	68"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1B90/CM	85	2600	85	2600	78"-70"	68"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1B90/CM	90	2475	90	2475	78"-66"	68"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1B90/CM	100	2750	100	2750	75"-71"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1B90/CM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21
1B90/CM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	21

Model (See NOTE 2)	Maximum Continuous HP	Maximum Continuous RPM	Takeoff HP	Takeoff RPM	Diameter	Standard Pitch	Hub Drilling No. Holes	Hub Drilling Dia. Holes	Hub Drilling Dia. Bolt Circle	Hub Dimensions Dia.	Hub Dimensions Thickness	Weight lb. Maximum Diameter
1B90/ECM	85	2600	85	2600	76"-68"	68"-38"	6	25/64"	4-3/8"	5-1/4"	3-7/8"	23**
1B90/ECM	100	2750	100	2750	75"-71"	72"-38"	6	25/64"	4-3/8"	5-1/4"	3-7/8"	23**
1B90/ECM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	3-7/8"	23**
1B90/ECM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	3-7/8"	23**
1B90/FCM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-1/4"	23.8**
1B90/FCM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-1/4"	23.8**
1B90/LCM	100	2750	100	2750	72"-71"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-3/4"	24.0**
1C90/LF	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	23.5*
1C90/LM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	23.5*
1C90/LM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	23.5*
1C90/ALM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	25.5*
1C90/ALM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	2-3/4"	25.5*
1C90/CLM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-3/4"	25**
1C90/CLM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-3/4"	25**
1C90/DLM	108	2600	108	2600	76"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-3/4"	25**
1C90/DLM	115	2800	115	2800	72"-70"	72"-38"	6	25/64"	4-3/8"	5-1/4"	4-3/4"	25**
1A135/RM	130	2800	130	2800	73"-68"	68"-38"	6	33/64"	4"	5-1/4"	2-7/8"	22
1A135/JCM	130	2800	130	2800	73"-68"	68"-38"	6	25/64"	4-3/8"	5-1/4"	4"	23.8**
1A135/KCM	130	2800	130	2800	73"-68"	68"-38"	6	25/64"	4-3/8"	5-1/4"	4-3/4"	24.1**
1A135/BRM	130	2800	130	2800	73"-68"	68"-38"	6	33/64"	4"	5-1/4"	4"	23.8**

* Weight includes a separate and loose adapter.
** Weight includes integral doweled spacer

Certification basis

Models 1A90/CF, 1A90/CH, 1B90/CM, 1C90/LF, and 1C90/LM:
Civil Air Regulations Part 14 effective October 19, 1945 with Amendment 14-1 thereto.
Model 1C90/ALM:
Federal Aviation Regulations Part 35 with Amendment 35-1 thereto.
All other Models:
Federal Aviation Regulations Part 35 with Amendments 35-1 and 35-2 thereto.
Type Certificate No. 842 issued April 18, 1946. The following models were approved under Delegation Option Authorization Procedures of Federal Aviation Regulations, Part 21 Subpart J:

1C90/ALM	approved November 1, 1965
1B90/CLM	approved March 8, 1969
1B90/DLM	approved July 10, 1969
1B90/ECM	approved March 8, 1969
1B90/FCM	approved December 11, 1969
1A135/RM	approved March 26, 1971
1A135/JCM	approved March 26, 1971
1A135/BRM	approved September 9, 1971
1A135/KCM	approved April 14, 1972
1B90/LCM	approved May 1, 1972

Date of Application for Type Certificate December 10, 1945.

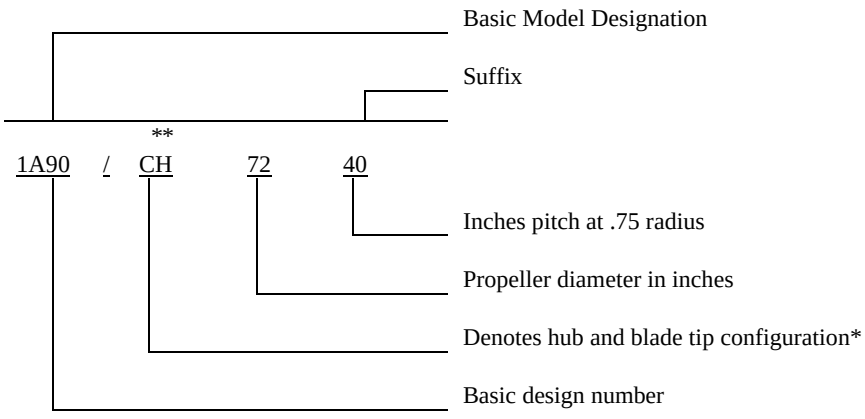
Production basis

Production Certificate No. 3.

NOTE 1. Installation. The model 1A90/CH propeller is to be assembled only with the Continental Motors tapered crankshaft hub detail No. 3745. The propeller nut and snap ring, Continental Part Numbers 21202 and 21203 are also used. The model 1A90/CF and 1B90/CM propellers are equally adaptable to the Continental tapered crankshaft (CMC 3745 hub) or the flanged crankshaft (SAE No. 1) using bushings A-1170 as required. The model 1C90/LF and 1C90/LM propellers are eligible only with McCauley adapter C-1210 which permits installation on an SAE No. 2 flange.

Bolts, nuts and front plates furnished by the engine manufacturer are not to be used. The propeller manufacturer will furnish the necessary bolts, bushings and adapters or spacers as needed for the desired installation. See NOTE 2 for installation drawing requirements.

NOTE 2. Propeller Model Designation. The propeller model designation consists of a series of numbers suffixed to the basic design number to indicate propeller diameter and geometric pitch at the .75 radius. For Example:



NOTE 2 (Cont'd)

*CH	designates assembly with Continental hub; elliptical tip blades.
CF	designates installation on SAE No. 1 flanged shaft, elliptical tip blades.
CM	designates installation on SAE No. 1 flanged shaft, square tip blades.
LF	designates installation on SAE No. 2 flanged shaft with McCauley P/N C-1210 adapter in accordance with McCauley Drawing C-1211, elliptical tip blades.
LM	designates installation on SAE No. 2 flanged shaft with McCauley P/N C-1210 adapter in accordance with McCauley Drawing C-1211, square tip blades.
RM	designates installation on special 4.0 in. bolt circle flange with six one-half in. diameter mounting bolts in accordance with McCauley Drawing C-4390, square tip blades.
ALM	designates installation on SAE No. 2 flanged shaft with McCauley P/N C-3635 adapter in accordance with McCauley Drawing C-3636, square tip blades.
CLM	designates installation on SAE No. 2 flanged shaft with McCauley P/N C-3515 spacer in accordance with McCauley Drawing C-3518, square tip blades.
DLM	designates installation on SAE No. 2 flanged shaft with McCauley P/N B-4160 spacer in accordance with McCauley Drawing C-3518, square tip blades.
ECM	designates installation on SAE No. 1 flanged shaft with McCauley P/N B-3927 spacer in accordance with McCauley Drawing B-3929, square tip blades.
FCM	designates installation on SAE No. 2 modified flanged shaft with McCauley P/N B-4301 spacer in accordance with McCauley Drawing B-4302, square tip blades.
JCM	designates propeller with McCauley P/N B-3927 integral doweled spacer, installation on SAE No. 1 flanged shaft in accordance with McCauley Drawing B-4387, square tip blades.
KCM	designates propeller with McCauley P/N B-4446 integral doweled spacer, installation on SAE No. 1 flanged shaft in accordance with McCauley Drawing B-4445, square tip blades.
LCM	designates installation on SAE No. 1 flanged shaft with McCauley P/N B-3400 spacer in accordance with McCauley Drawing B-3401, square tip blades.
BRM	designates propeller with McCauley P/N B-3718 integral doweled spacer, installation on special 4.0 inch bolt circle with six one-half inch diameter mounting bolts in accordance with McCauley Drawing C-4411, square tip blades.
**	Some propellers of these models may have been produced with a hyphen following the basic design number in lieu of a diagonal line, i.e. "1A90-CH7240".

NOTE 3. Pitch Control. Not applicable.

NOTE 4. Feathering. Not applicable.

NOTE 5. Left Hand Models. Not applicable.

NOTE 6. Interchangeable blades. Models 1A90 series and 1B90-CM, or 1C90-ALM and 1C90-CLM are sufficiently similar aerodynamically and vibrationwise to permit interchangeability in the same diameter and static r.p.m. without a flight test.

NOTE 7. Accessories. Not applicable.

NOTE 8. Shank Fairings. Not applicable.

NOTE 9. Special Limits.

Table of Propeller-Engine Combinations
Approved Vibrationwise for Use on Normal Category Single-Engine Aircraft

The maximum and minimum propeller diameters that can be used from a vibration standpoint are shown below. No reduction below the minimum diameter listed is permissible since this figure includes the diameter reduction allowable for repair purposes.

Propeller Model	Engine Model	Max. Dia. (Inches)	Min. Dia. (Inches)	Placards
1A90/CF 1A90/CH or 1B90/CM	Continental A-65	76	69 1/2	None
1A90/CF 1A90/CH or 1B90/CM	Continental A-75	71	68 1/2	None
1A90/CF 1A90/CH or 1B90/CM	Continental C-75	74	69 1/2	None
1A90/CF 1A90/CH or 1B90/CM	Continental A-80	70	68 1/2	None
1A90/CF 1A90/CH 1B90/CM or 1B90/ECM	Continental C-85 series, 85 hp and 2575 r.p.m. or less	71	68 1/2	None
1A90/CF 1A90/CH or 1B90/CM	Continental C-90	73	69 1/2	None
1C90/LM 1C90/ALM 1C90/CLM 1C90/DLM 1B90/CM 1B90/ECM 1B90/FCM	Lycoming O-235 series 6.75 to 1 compression ratio or less, 108 hp. @ 2600 r.p.m. or less	73	70	None
1A90/CF 1B90/CM 1B90/ECM or 1B90/LCM	Continental O-200 series up to 100 hp. @ 2750 r.p.m.	75	71	None
1B90/CM 1B90/ECM 1B90/FCM 1C90/LM 1C90/ALM 1C90/CLM 1C90/DLM	Lycoming O-235 series 6.75 to 1 compression ratio or less, 115 hp. @ 2800 r.p.m. or less	72	70	None

	Propeller Model	Engine Model	Max. Dia. (Inches)	Min. Dia. (Inches)	Placards
	1A135/RM	Rolls Royce O-240 series up to 130 hp. @ 2800 r.p.m.	72	71	"Avoid continuous operation in full throttle climb above 2700 r.p.m. and in cruising above 75% power setting."
or	1A135/BRM				
			71	70	None
			70	69	"Avoid continuous operation while descending between 2150 and 2350 r.p.m. with power retarded below 1/4 throttle setting."
	1A135/JCM	Lycoming O-235 series up to 125 hp. @ 2800 r.p.m.	71	70	"Avoid continuous operation while descending between 2025 and 2325 r.p.m. with power retarded below 1/4 throttle setting."
or	1A135/KCM				
			70	69	"Avoid continuous operation while descending between 2075 and 2400 r.p.m. with power retarded below 1/4 throttle setting."
	1A135/JCM	Lycoming O-235 series 6.75:1 compression ratio up to 115 hp. @ 2800 r.p.m.	72	69	None

NOTE 10. Special Notes. The word "eligible" as used herein does not signify approval. For approval, compliance with the applicable aircraft airworthiness requirements is necessary.

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